

PRELIMINARY REPORT
Tropical Storm Olaf
26-September -12 October 1997

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5 November 1997

a. Synoptic History

Olaf was a tenacious tropical cyclone which persisted for a couple of weeks despite a prevailing unfavorable upper-level environment.

Olaf appears to have developed from an area of disturbed weather associated with a tropical wave that crossed Central America on 22 September and then slowly moved westward over the eastern Pacific. The disturbance became nearly stationary while the shower activity gradually increased. During that time, there was a strong upper-level low over the Gulf of Mexico that moved southwest into the eastern Pacific, to the west of the disturbance. Initially, the strong upper-level winds associated with the low produced a shearing environment which inhibited significant development of the disturbance. A sequence of satellite images clearly showed how the disturbance was able to gradually develop its own upper-level outflow which eventually forced the upper-low from to retreat its vicinity. This resulted in the formation of tropical depression near 1200 UTC 26 September, about 300 n mi south of the Gulf of Tehuantepec. It became Tropical Storm Olaf a few hours later.

The upper-low which also helped to steer the tropical cyclone slowly northward, toward the southeastern coast of Mexico. During that period, both satellite intensity estimates and ship reports indicated that Olaf was strengthening. Olaf reached estimated maximum winds of 60 knots and a minimum pressure of 987 mb at 1800 UTC 27 September. Thereafter, a portion of the circulation began to interact with rough terrain and Olaf gradually weakened. It was a tropical depression when the center reached the coast in the vicinity of Salina Cruz 0000 UTC 29 September. A few hours later, the circulation was no longer identified and operationally Olaf was declared dissipated. However, the area of disturbed weather, associated with the remnants of Olaf moved westward over water for a few days and operationally was reinstated as a tropical depression status 5 October. Olaf was then located a few hundred miles southwest of the southern tip of Baja California. A post-storm analysis of the satellite imagery suggests that a weak surface circulation with estimated 25-knot winds and some convective activity persisted, and were sufficient to redesignate the system as a tropical depression from 29 September to 5 October.

are not significant since Olaf was a tropical storm only for a short period.

Advisories on Olaf were discontinued after its first landfall but the possibility of its regeneration was indicated in the NHC Tropical Weather Outlooks. Advisories were reinitiated when it became apparent that Olaf had rejuvenated.

Figure Captions:

- Fig. 1. Best track positions for Tropical Storm Olaf, 26 September- 12 October 1997.
- Fig. 2. Best track one-minute surface wind speed curve for Tropical Storm Olaf.
- Fig. 3. Best track minimum central pressure curve for Tropical Storm Olaf.

6/0000	16.5	115.3	1005	30	“
0600	16.4	114.8	1005	30	“
1200	16.2	114.3	1005	30	“
1800	16.0	113.8	1005	30	“
7/0000	15.8	113.3	1005	30	“
0600	15.7	113.0	1005	30	“
1200	15.7	112.5	1005	30	“
1800	15.6	111.9	1005	30	“
8/0000	15.3	111.1	1005	30	“
0600	14.9	110.2	1005	30	“
1200	14.4	109.3	1005	30	“
1800	13.8	108.4	1005	30	“
9/0000	13.2	107.6	1005	30	“
0600	12.6	106.8	1005	30	“
1200	12.1	106.1	1005	30	“
1800	11.9	105.4	1005	30	“
10/0000	12.2	104.9	1005	30	“
0600	12.8	104.5	1005	30	“
1200	13.4	104.1	1005	30	“
1800	14.1	103.9	1005	30	“
11/0000	15.4	103.8	1005	30	“
0600	16.0	104.0	1005	30	“
1200	16.7	104.0	1005	30	“
1800	17.3	104.0	1005	30	“
12/0000	17.8	104.0	1005	30	“
0600	18.2	104.0	1005	30	“
1200	18.7	104.0	1005	30	“
1800	19.0	104.2	1009	25	dissipating
29/0000	16.2	95.0	1005	30	Landfall near Salina Cruz, MX
12/1800	19.0	104.2	1009	25	Landfall near Manzanillo, MX
27/1800	14.5	94.8	989	60	Minimum Pressure

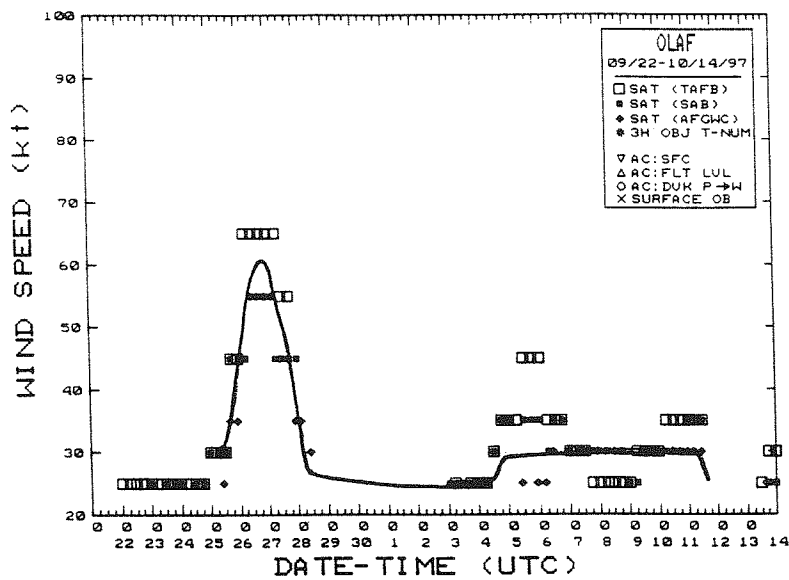


Fig. 2. Best track one-minute surface wind speed curve for Tropical Storm Olaf.

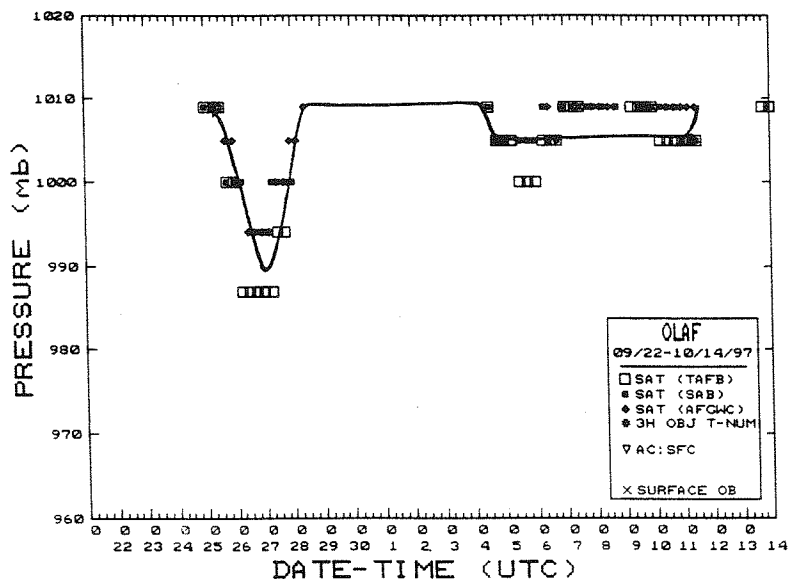


Fig. 3. Best track minimum central pressure curve for Tropical Storm Olaf.